

REMARKS

The present Amendment is in response to the Office Action mailed March 25, 2008. Claims 1-14 remain pending in view of the above amendments.

Applicants note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. Applicants also note that the remarks presented herein have been made merely to clarify the claimed embodiments from elements purported by the Examiner to be taught by the cited reference. Such remarks, or a lack of remarks, are not intended to constitute, and should not be construed as, an acquiescence, on the part of the Applicants: as to the purported teachings or prior art status of the cited references; as to the characterization of the cited references advanced by the Examiner; or as to any other assertions, allegations or characterizations made by the Examiner at any time in this case. Applicants reserve the right to challenge the purported teaching and prior art status of the cited references at any appropriate time. Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks.

PRIOR ART REJECTIONS

Rejection Under 35 U.S.C. § 103

The Office Action rejected claims 1-7 and 9-12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,802,788 (*Ozawa*) in view of PCT Publication No. WO 01/65023 (*Kollegger*).

The Office Action rejected claim 8 under 35 U.S.C. § 103(a) as being unpatentable over *Ozawa* in view of *Kollegger* and further in view of U.S. Patent No. 4,744,691 (*Thal*).

A. Use of Untranslated Reference To Reject Claims

As an initial matter, Applicants note that the Examiner has relied on *Kollegger* in the rejection of claims 1-7 and 9-12. Although the Examiner has provided an English translation of the title and abstract of *Kollegger*, the Examiner has failed to provide a full-text English translation of the underlying document. As stated in MPEP § 706.02(II), however, "Citation of and reliance upon an abstract without citation of and reliance upon the underlying scientific document is generally inappropriate where both the abstract and the underlying document are prior art. See *Ex parte Jones*, 62 USPQ2d 1206, 1208 (Bd. Pat. App. & Inter. 2001) (unpublished)... If the document is in a language other than English and the examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the examiner is relying upon in support of the rejection." (*Emphasis added*). Pursuant to MPEP 706.02(II), therefore, the rejection of claims 1-7 and 9-12 based upon *Kollegger* is improper. Applicant respectfully requests that the rejection be withdrawn, or that a suitable translation of *Kollegger* be provided for review by Applicant.

B. Failure to Teach or Suggest All of the Claim Limitations

Notwithstanding the foregoing, Applicant traverse the Examiner's rejection in view of *Ozawa* and *Kollegger* on yet another basis. To establish a *prima facie* case of obviousness, the Examiner must at a minimum demonstrate that the cited reference (or references when combined) teach or suggest all of the claim limitations. If the prior art fails to does not teach or suggest all of the claim limitations, the Examiner must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.

The Office Action acknowledges, for example, that *Ozawa* does not disclose the greatest thickness of said at least one of the wedge-shaped layers measured normal to the longitudinal axis of the tensile element is provided in the region near the load. The Office Action suggests that this deficiency is remedied by *Kollegger*. Applicant traverses.

The subject matter of *Kollegger* is not an anchorage wherein lateral pressure is applied to the tensile element via a wedge effect, i.e., by wedges, and, secondly, *Kollegger* does not mention anywhere that one element of the anchorage has a lower modulus of elasticity than another element of the anchorage.

A wedge effect is produced by a wedge sliding on an inclined plane and lateral pressures created thereby. This is not the case with *Kollegger*. If the casting compound slid along the anchor body or the tensile element, the anchorage according to *Kollegger* would already have been destroyed. Therefore, this is not a wedge but a cast-on layer.

According to *Kollegger*, the shearing forces are transmitted between the tensile element and the casting body by an adhesive bond. The anchor sleeve is provided with a profiling with which the forces are transmitted via a gear tooth system and a bond. After casting, the entire anchorage is one piece in which the forces are passed from the tensile element through the casting compound and rest on the anchor body. *See e.g.*, Figure 4. Looking at the lateral compressive stress, it is evident that the force in the tensile element is transmitted through the composite body onto the anchor sleeve. The anchor sleeve acts as a support, and the force is guided from the tensile element through one (1) layer, the casting compound, into the support.

Regarding the lateral pressure in *Kollegger*, the following general comments can be made: First, the forces of the tensile element are transmitted into the casting compound only via an adhesive bond. Inclined pressure struts, which will also form lateral pressure, are produced in the casting compound only under higher loads. However, the adhesive bond remains predominant.

Furthermore, no different moduli of elasticity are described in *Kollegger*, but only different strengths. The behavior of a cast layer having a lower strength than the tension member results in the fact that, under stress, the cast layer will be destroyed before the tension member (or will develop cracks, respectively) or will start to flow, and thus the tensile element can be protected from overstressing caused by lateral pressure.

In a wedge anchorage, the compressive strength in the wedge and in the anchor body will not be reached or exceeded, respectively, even under maximum load.

For at least these reasons, *Kollegger* fails to remedy the deficiencies of *Ozawa* and Applicants respectfully submit that claim 1 is patentable over the cited art.

As illustrated above, the features of claim 1 cannot be derived from *Kollegger* as known features. As a result, a combination with *Ozawa* will not lead close to the invention, either. Thus, the references are not combinable as suggested by the Examiner and do not lead to the claimed invention.

Ozawa shows the arrangement of a wedge (2) on a tension member, with a tubular body (5) being provided between the tension member and the wedge. According to *Ozawa*, the soft layer of wedges close to the load is a pressed layer which is supposed to prevent the formation of notches in the tensile element. Under stress, the soft layer starts to "flow" and penetrates into the cavities of the tension cords. An object of *Ozawa* is to reduce local stress peaks.

Using the soft layer according to *Ozawa*, it is impossible to influence the diffusion of stress such that the contact pressure will increase from the region close to the load toward the region remote from the load. This was not even considered or addressed by *Ozawa*. The soft layer according to *Ozawa* is able to reduce only local stress peaks.

With the wedge anchorage according to the invention, the tensile force is guided into the anchor sleeve through the at least double-layered wedge resting on the anchor sleeve. The wedge is not firmly connected to the anchor sleeve and is thus able to apply lateral pressure (a wedge effect) onto the tensile element also by entrainment and/or previous force fitting. In contrast to *Kollegger*'s cast anchorage, the wedge(s) between the tensile element and the anchor sleeve exhibit a smaller cross-section (wedge peak) in the region close to the load than in the region remote from the load. The stiffness of the wedge normal to the longitudinal axis of the tensile element should be smallest where the wedge exhibits the wedge peak (the smallest cross-section) and largest where it exhibits the thickest spot (the largest cross-section). This is exactly opposite to the lengths of the pressure struts of the cast anchorage according to *Kollegger*.

With the wedge anchorage according to the invention, at least two layers are always necessary. On the one hand, the wedge must have a wedge form so that a

contact pressure onto the tensile element is produced. On the other hand, it has to generate the desired course of the contact pressure from the region close to the load to the region remote from the load via its geometry and the elastic properties of the layers. The distribution of the contact pressure is adjusted so as to be normal to the tension member by the stiffness of the double-layered wedge. The stiffness distribution is supposed to be such that the stiffness increases from the region close to the load toward the region remote from the load. The stiffness of the wedge is composed of the ratio of the moduli of elasticity of the two layers and the ratio of the two layer thicknesses taking their course in the regions close to and remote from the load. In a wedge with a wedge peak close to the load, said stiffness distribution cannot be achieved from a change in the thickness of a deformable layer alone, as is the case with *Kollegger*.

For at least these reasons, Applicant respectfully submits that claim 1 is patentable over the cited art. Because claim 1 is patentable, the dependent claims are patentable for at least the same reasons.

CONCLUSION

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 25th day of September, 2008.

Respectfully submitted,

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